

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Shigeru HANEDA, et al.

SERIAL NO: New Application

GAU:

FILED: Herewith

EXAMINER:

FOR: MAGNETO-RESISTANCE EFFECT ELEMENT

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

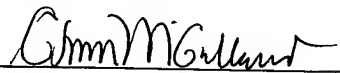
- ☐ Each item of information contained in this information disclosure statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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DOCKET NO: 243337US2RD

Sheet 1 of 1

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FOR: MAGNETO-RESISTANCE EFFECT ELEMENT

STATEMENT OF RELEVANCY

Reference AA (US 5,416,353) on Form PTO- 1449:

This reference relates to the magneto resistance element with magnetic and semiconductor multilayer structure. But in the occurring MR effect, my invention differs from this reference in microscopic area.

Reference AO (JP 11-330387) on Form PTO-1449:

This reference relates to the spacer layer between magnetic layers. But my invention differs from this reference in magneto resistance device.

References AV and AW on Form PTO-1449:

These references relate to the magneto resistance (MR) element with a magnetic-semiconductor/semiconductor/magnetic-semiconductor tri-layer structure. But in the occurring MR effect, my invention differs from these references in microscopic area.

References AX and AY on Form PTO-1449:

These references relate to the electric-field control of ferromagnetism in a thin-film magnetic semiconductor, using an insulating-gate field effect transistor (FET) structure. But in the controlling magnetism by FET, my invention differs from these references in microscopic area.

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 243337US2RD		SERIAL NO. New Application	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Shigeru HANEDA, et al.			
				FILING DATE Herewith		GROUP	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	5,416,353	05/16/95	Yuzo KAMIGUCHI, et al.			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO		
	AO	11-330387	11/30/99	Japan (with English Abstract)			x
	AP						
	AQ						
	AR						
	AS						
	AT						
	AU						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	AV	N. AKIBA, et al., "Interlayer Exchange in (Ga, Mn) As/ (Al, Ga) As/ (Ga, Mn) As Semiconducting Ferromagnet/Nonmagnet/Ferromagnet Trilayer Structures", APPLIED PHYSICS LETTERS, Vol. 73, No. 15, October 12, 1998, pgs.2122-2124					
	AW	D. CHIBA, et al., "Properties of (Ga, Mn) As/ (Al, Ga) As/ (Ga, Mn) As Magnetic Trilayer Structures", PHYSICA E, Vol. 10, 2001, pgs. 278-282					
	AX	H. OHNO, et al., "Electric-Field Control of Ferromagnetism", NATURE, Vol. 408, December 21/28, 2000, pgs. 944-946					
	AY	D. CHIBA, et al., "Properties of Field-Effect Transistors with a III-V Ferromagnetic Semiconductor Channel Layer", THE 7 TH SYMPOSIUM ON THE PHYSICS AND APPLICATION OF SPIN-RELATED PHENOMENA IN SEMICONDUCTOR, Vol. A7, December 17-18, 2001, pgs. 25-28 (Extended Abstract)					
	AZ						<input type="checkbox"/> Additional References sheet(s) attached
Examiner					Date Considered		
*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							